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ABSTRACT OF THE DISCLOSURE

The present invention provides electronic communication devices, methods of forming electrical communication devices, and communications methods. An electronic communication device adapted to receive electronic signals includes: a housing comprising a substrate and an encapsulant; an integrated circuit provided within the housing and comprising transponder circuitry operable to communicate an identification signal responsive to receiving a polling signal; an antenna provided within the housing and being coupled with the transponder circuitry; and a ground plane provided within the housing and being spaced from the antenna and configured to shield some of the electronic signals from the antenna and reflect others of the electronic signals towards the antenna. A method of forming an electronic signal communication device includes providing a substrate having a support surface; providing a conductive layer adjacent at least a portion of the support surface; providing a dielectric layer over the conductive layer; providing an antenna over the dielectric layer; coupling an integrated circuit with the antenna; and encapsulating the antenna, the dielectric layer, and the integrated circuit using a flowable encapsulant.